

Remarks

Before considering the Examiner's rejection under 35 USC § 103 in detail, Applicants wish to briefly summarize the key aspects of the present invention.

The present invention relates to a method of forming antimicrobially effective, water soluble films comprising, inter alia, the steps of mixing pullulan and at least two essential oils selected from the group consisting of thymol, methyl, salicylate, eucalyptol and menthol and, then, drying off the cast.

Claim Objections

The Examiner has objected to Claim 29 under 37 CFR § 1.75(c) as being of improper dependent form for failing to further limit the subject matter of the previous claim. Applicants have cancelled Claim 29. This should obviate the Examiner's objection.

Rejection under 35 USC § 103

The Examiner has rejected Claims 18-28 under 35 USC §103 as being unpatentable over US 4,562,020 to Hijiya et al. (Hijiya) in view of either WO98/11867 to Nair et al. (Nair) or US 5,948,430 to Zerby et al. (Zerby) either alone or in combination.

Applicants respectfully traverse this rejection.

Hijiya discloses a continuous process for producing a self-supporting, water-soluble, glucan film. The optional use of menthol as a cosmetic active is also disclosed. Nowhere, however, does Hijiya disclose or even suggest a method comprising mixing oils to form an oil mixture that comprises at least two essential oils selected from the group consisting of thymol, methyl salicylate, eucalyptol to provide pullulan films having antimicrobial properties.

Zerbe relates to compositions containing therapeutic agents and/or breath freshening agents for use in the oral cavity comprising a water-soluble carrier, a cosmetic or pharmaceutical ingredient, a flavor and at least one of a polyalcohol, a surfactant and a plasticizer. Like Hijiya, however, Zerbe nowhere teaches or suggests forming a mixture of oils containing at least two of thymol, methyl salicylate, eucalyptol, and menthol to provide pullulan films having antimicrobial properties.

Nair relates to oral compositions including zinc and coolant selected from the group consisting of monomenthyl succinate, its alkali metal salt, its alkaline earth metal salts and mixtures thereof, for providing

extended breath freshening without the poor taste and astringency associated with zinc containing compositions. Nair further discloses the optional use of Listerine® brand mouthwash ingredients, namely thymol, menthol, eucalyptol and methyl salicylate. Importantly, however, Nair suggests that the effectiveness of such essential oils relates to either "this invention" (page 15, line 13), namely to the presence of zinc salts (page 16, line 1-3) or, in the case of Listerine® mouthrinse, to the presence of "high" alcohol concentrations (page 16, lines 17-20 and 21-24). In contrast, the methods of the present invention teach improving the antimicrobial effectiveness of essential oils in oral care products by incorporating at least two such oils in pullulan containing films. Nair is silent concerning the use of stand alone film technology.

Therefore, since neither Hijiya, Zerbe nor Nair teach or suggest improving the antimicrobial effectiveness of essential oils in oral care products by incorporating at least two such oils in pullulan containing film compositions, the methods of the present invention would not have been obvious over these references in combination.

Conclusion

Therefore, in light of the remarks made herein, it is respectfully submitted that the rejections under 35 USC § 103 have been overcome. Applicants respectfully submit that they have distinguished the cited art sufficiently to avoid the Examiner's rejection. Accordingly, reconsideration and allowance of Claims 18-28 are earnestly solicited.

Respectfully submitted,

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